

WHAT IS CLAIMED IS:

1. An array type noise reduction filter, comprising:

a plurality of noise reduction filters horizontally

5 arranged within a single chip, each comprising,

an inductance portion comprised of first and second
coils approximately vertically connected in the chip,

a ground portion arranged over or under the
inductance portion, and

10 a capacitance portion arranged over or under the
ground portion;

wherein a second coil of any inductance portion is
constructed to be wound in a direction opposite to a second
coil of another adjacent inductance portion.

15 2. The array type noise reduction filter according to
claim 1, wherein the first and second coils have approximately
the same inductance value.

20 3. The array type noise reduction filter according to
claim 1, wherein the ground portion is comprised of a first
ground portion arranged over the inductance portion and a
second ground portion arranged under the inductance portion.

25 4. The array type noise reduction filter according to

claim 3, wherein the capacitance portion is comprised of a first capacitance portion arranged under the first ground portion and a second capacitance portion arranged over the second the ground portion.

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5. The array type noise reduction filter according to claim 1, wherein the ground portion is arranged at only one position of the upper and lower portions of the chip, and the capacitance portion is comprised of a first capacitance portion arranged over the ground portion and a second capacitance portion arranged under the ground portion.

6. The array type noise reduction filter according to claim 1, wherein the ground portion is a common electrode formed as a single layer to be shared between a plurality of noise reduction filters.

7. The array type noise reduction filter according to claim 1, wherein a plurality of noise reduction filters each further comprise isolation means formed between the first and second coils to block electromagnetic influence between the first and second coils.

8. The array type noise reduction filter according to claim 7, wherein the isolation means is formed of a conductor

layer having a via hole for connecting the first and second coils to each other.

9. An array type noise reduction filter having a single
5 chip shape, comprising:

a plurality of inductance portions each comprised of first and second coils approximately vertically connected within a chip, and arranged horizontally to each other;

10 a ground portion arranged at at least one position over or under the inductance portions according to the arrangement direction of a plurality of inductance portions; and

a plurality of capacitance portions each vertically arranged over or under the ground portion in approximately the same direction as that of each of a plurality of inductance
15 portions,

wherein the inductance portions each include isolation means for blocking electromagnetic influence between first and second coils of each of the inductance portions, and a second coil of any inductance portion is constructed to be wound in a
20 direction opposite to a second coil of another adjacent inductance portion.